SECTION 09841

SOUND ABSORPTIVE CANOPIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general conditions of Contract, including General and Supplementary Conditions and Divisions-1 Specification sections apply to work of this section.

1.02 SUMMARY

A. Section Includes:
   1. Acoustical canopies
   2. Cable hangers and fasteners

B. Related Sections:
   1. Section 09511 – Suspended Acoustical Ceilings
   2. Section 09260 – Gypsum Board Assemblies
   3. Division 15 Sections - HVAC
   4. Division 16 Sections - Electrical

1.03 REFERENCES

A. American Society for Testing and Materials (ASTM):

   1. ASTM C 423: Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
   2. ASTM E 84**; 2004**: Standard Test Method for Surface Burning Characteristics of Building Materials.
   3. ASTM E 1477: Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers.

B. International Code Council Evaluation Service
   AC156 - Acceptance Criteria for Seismic Qualification Testing of Non-structural Components

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's technical data for each type of canopy system required.

B. Installation Instructions: Submit manufacturer's installation instructions.

C. Shop Drawings: Layout and details of canopies. Show locations of items which are to be coordinated with canopies.

D. Certifications: Manufacturer's certifications that products comply with specified requirements, including laboratory reports showing compliance with specified tests and standards.

1.05 QUALITY ASSURANCE

A. Single-Source Responsibility: Provide canopies and method of attachment by a single manufacturer.

B. Coordination of Work: Coordinate canopy work with installers of related work including, but not limited to suspended ceilings, building insulation, gypsum board, light fixtures, mechanical systems, electrical systems, and sprinklers.

C. Seismic Performance: System seismic performance verified through full-scale testing in accordance with ICC-ES – AC-156 Acceptance Criterial for Seismic Qualification Testing of Non-Structural components.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver canopies to project site in original, unopened packages and store them in a fully enclosed space below 100ºF (38ºC) where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.

B. Before installing canopies, permit them to reach room temperature and a stabilized moisture content.

C. Handle canopies carefully to avoid damaging units in any way.

1.07 PROJECT CONDITIONS

A. Space Enclosure:
Building areas to receive canopies shall be free of construction dust and debris. Products can be installed up to 100°F (38°C) with humidity not exceeding 90% RH. Cannot be used in exterior applications where standing water is present or where moisture will come in direct contact with the canopy. Following installation, conditions must be maintained below 70% RH.

1.08 WARRANTY

A. Acoustical canopy: Submit a written warranty executed by the manufacturer, agreeing to repair or replace canopies that fail within the warranty period. Failures include, but are not limited to:
   1. Canopies: Manufacturing defects.
   2. Attachment devices: Rusting and manufacturing defects.

B. Warranty Period:
   1. Canopies: One (1) year from date of substantial completion.
   2. Attachment devices: One (1) year from date of substantial completion.

C. The Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Canopies:
   1. Armstrong World Industries, Inc.
   2. USG Corporation: www.usg.com
   3. Hunter Douglas Contract: www.hunterdouglascontract.com

B. Attachment devices:
   1. Armstrong World Industries, Inc.
   2. USG Corporation: www.usg.com
   3. Hunter Douglas Contract: www.hunterdouglascontract.com

2.02 CANOPY UNITS

A. Canopy:
   1. Surface Texture: Smooth
   2. Composition: Wet formed mineral fiber
   3. Surface finish: Acoustically transparent membrane on all sides and edges
   4. Color: White
   5. Size: 46-1/2 inches x 75 inches
   6. Thickness: 1-1/4 inch
   7. Edge Detail: Square edge
   8. Panel Configuration: Concave
   9. Arc Radius: 10 feet 9 inches
   10. Flame Spread**/Smoke Developed**: (ASTM E 84), Class A
       a. **Maximum Flame Spread: 25**
       b. **Maximum Smoke Developed: 450**
   11. Light Reflectance: (LR): (ASTM E 1477), Minimum 0.86
   12. Acoustical Absorption: (ASTM C423), Minimum 30 Sabin/panel
   13. Mold/Mildew Inhibitor: The surface and back of the product have been treated with BioBlock, a paint that contains a special biocide that inhibits or retards the growth of mold and mildew, ASTM D3273.
   14. Basis of Design Product: SoundScapes Acoustical Canopy Hill, manufactured by Armstrong World Industries.

2.03 ATTACHMENT SYSTEM

A. Installation Hardware
   1. Hardware is partially embedded with little visible support mechanisms.
   2. Cables and components for attachment to support are available to coordinate with the canopy package.

PART 3 - EXECUTION

3.01 PREPARATION

A. Measure each ceiling area and establish layout of canopies. Comply with reflected ceiling plans. Coordinate panel layout with mechanical, electrical and sprinkler fixtures.

3.02 INSTALLATION

A. Install canopies in accordance with the manufacturer’s instructions and in compliance with the authorities having jurisdiction.

3.03 ADJUSTING AND CLEANING

A. Replace damaged and broken panels.

B. Clean exposed surfaces of canopies per manufacturer’s instructions.

END OF SECTION